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(54) **Title:** SUPERLATTICE NANOPATTERNING OF WIRES AND COMPLEX PATTERNS

(57) **Abstract:** Fabrication of metallic or non-metallic wires with nanometer widths and nanometer separation distances without the use of lithography. Wires are created in a two-step process involving forming the wires at the desired dimensions and transferring them to a planar substrate. The dimensions and separation of the wires are determined by the thicknesses of alternating layers of different materials that are in the form of a superlattice. Wires are created by evaporating the desired material onto the superlattice that has been selectively etched to provide height contrast between layers. The wires thus formed upon one set of superlattice layers are then transferred to a substrate.

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